

Translation

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference <b>PAT99218PCT</b>	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/NPEA/416)
International application No. <b>PCT/EP00/08298</b>	International filing date (day/month/year) <b>25 August 2000 (25.08.00)</b>	Priority date (day/month/year) <b>16 September 1999 (16.09.99)</b>
International Patent Classification (IPC) or national classification and IPC <b>B05D 7/00,</b>		
Applicant <b>BASF COATINGS AG</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of            sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand <b>05 April 2001 (05.04.01)</b>	Date of completion of this report <b>13 November 2001 (13.11.2001)</b>
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not assessed to the report since they do not contain amendments.):

- ☒ the international application as originally filed.
- ☒ the description, pages 1-48, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☒ the claims, Nos. 1-18, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the drawings, sheets/fig. \_\_\_\_\_, as originally filed,  
sheets/fig. \_\_\_\_\_, filed with the demand,  
sheets/fig. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig. \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(e)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-15	YES
	Claims	16-18	NO
Inventive step (IS)	Claims		YES
	Claims	1-15	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

## 2. Citations and explanations

The following documents are referred to:

- D1: US-A-4 756 975 (FUJII YASUHIRO ET AL) 12 July 1988 (1988-07-12)  
D2: US-A-5 389 406 (DOEBLER KLAUS-PETER ET AL) 14 February 1995 (1995-02-14)  
D3: US-A-5 252 399 (HIRATA SEIJI ET AL) 12 October 1993 (1993-10-12)

1.1 D1 discloses an integrated process for painting car and utility vehicle bodies or cabs comprising plastic parts and spare and add-on parts thereof (column 1, lines 5-9), wherein

- 1) the metal parts of the body are coated with an electrocoating paint (column 2, lines 26-28) and the resulting electrocoating is heat cured (column 5, line 21: "heat curing"), producing a corrosion-resistant electrocoating;
- 2) the electrocoated metal parts of the body and the plastic parts of the body are assembled (column 2, line 28: "before ... the assembling"), wherein the surface of the plastic parts has not been primed (column 6, lines 51-59: surface treatments

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that do not include priming are disclosed);  
3) the assembled metal-plastic body is coated with an aqueous (column 9, line 5: "aqueous type paint") primer (the "barrier coat" is considered to be a water-based primer), wherein the assembled metal-plastic body, the plastic parts of which have not been primed, is uniformly coated with an electrically conductive (column 10, line 10: "electroconductive substance") water-based primer and the resulting coating of water-based primer is cured (column 12, line 47: "baked") at temperatures  $\leq 100$  DEG C (column 12, line 57: a range from 60 to 140 DEG C is indicated. The temperature is further defined as being such "as will not cause ... thermal deformation of plastic members". In light of the glass transition temperatures  $T_g$  of conventional thermoplastics (in particular, the polyamide disclosed in D1, see column 17) a temperature of  $\leq 100$  DEG C is therefore implicitly disclosed), giving a two-layer priming coat comprising electrocoating paint and electrically conductive water-based primer on the metal parts and a single-layer priming coat of electrically conductive water-based primer on the plastic parts;

- 4) a colouring and/or special paint (column 16, line 24: "metallic paint") is applied to the priming coats and the resulting water-based paint coat dried without curing (this step is implicitly disclosed, since drying/curing is carried out only after the subsequent application of a clear varnish: see column 16, line 26), after which  
5) at least a clear varnish (column 16, line 25:

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"clear paint") is applied to the dried water-based paint coat to give at least one coat of clear varnish, and

- 6) the dried water-based paint coat and the at least one coat of clear varnish are cured together (column 16, line 26: "cured") by heat treatment or heat treatment and actinic irradiation (column 16, lines 30-34) at temperatures  $\leq 100$  DEG C (in light of the observation made in column 12, lines 56-60, with respect to the thermal deformation of plastic parts, this temperature is implicitly disclosed, since it depends on the glass transition temperature of the plastics used), yielding an integrated multicoat colouring and/or special paint coating.

- 1.2 The subject matter of Claim 1 differs from that of D1 in that

- a) the paint in step 4) is a water-based paint (feature M1),
- b) the clear varnish in step 5) is applied "wet-on-wet" (feature M2), and
- c) the clear varnish in step 5) is a two-pack clear varnish (feature M3).

- 1.3 There appears to be no functional relationship between these features within the meaning of the PCT Guidelines (Chapter IV-8.3a). Claim 1 appears to be merely a juxtaposition of features and not a true combination.

According to the problem-solution approach, a different problem may therefore be separately formulated for each of the three features:

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1.4.1 With respect to feature M1, the problem addressed may be seen to consist in the use of an environmentally friendly paint. The solution - to substitute a water-based paint for an organic solvent - may be considered obvious to a person skilled in the art of paint technology, especially in view of long-standing awareness of the issue of organic solvent emission and the increasing stringency of environmental guidelines for this class of solvents over the past decade; however, see also, for example, the disclosure of D3 (column 1, lines 22-26).

1.4.2 With respect to feature M2, the problem addressed may be seen to consist in the selection of a particular painting process. The solution - "wet-on-wet" application - is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest, without thereby being inventive.

1.4.3 With respect to feature M3, the problem addressed may be seen to consist in the selection of a particular type of clear varnish. The solution - to select two-pack clear varnish - is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest, without thereby being inventive.

1.5 Therefore, the subject matter of Claim 1 does not involve an inventive step (PCT Article 33(3)).

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- 1.6 Since the features M1, M2 and M3 listed in 1.2 are not comprised by the subject matter of independent product Claim 16, the subject matter of Claim 16 is not novel over D1.
- 1.7 Owing to its back reference to Claim 16, the subject matter of Claim 18 is likewise not novel over D1.
- 2.1 Dependent Claim 17 contains no features which, combined with the features of any claim to which they refer, meet the PCT requirements for novelty, since D1 discloses a scratch-resistant paint (column 14, line 63: "ultra-hard film").
- 2.2 Dependent Claims 2, 4 and 14 contain no features which, combined with the features of any claim to which they refer, meet the PCT requirements for inventive step. The reasons are as follows (the problem-solution approach remains unchanged, since the special technical features are unchanged):
- 2.2.1 The additional features of dependent Claim 2 are, for a person skilled in the art, implicitly disclosed by D1 (column 2, line 28).
- 2.2.2 With respect to the additional features of Claim 4, D1 discloses a lead-free, cation-type (column 3, line 44) electrocoating paint based on at least an epoxy-amine adduct (column 4, lines 5-15).
- 2.2.3 With respect to the additional features of Claim 15, see D1, column 16 (lines 30-34 and line 26: "cured").
- 2.3 Dependent Claims 3, 5-13 and 15 contain no features

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which, combined with the features of any claim to which they refer, meet the PCT requirements for inventive step. The reasons are as follows:

- 2.3.1 There appears to be no functional relationship between the additional feature of dependent Claim 3 and features M1, M2 or M3. The problem addressed by this feature - balancing a dark substrate and light-coloured paint - is known to those skilled in the art. The use of a light-coloured primer disclosed in Claim 3 is considered obvious.
- 2.3.2 The additional features of dependent Claim 5 pertain to an electrically conductive water-based primer, the formulation of which is familiar to a person skilled in the art: see the disclosure of D2 (column 5, lines 12-18). This formulation is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of interest, without thereby being inventive.
- 2.3.3 The additional features of dependent Claims 6-13 likewise appear to pertain to conventional trade practices familiar to a person skilled in the art: see D2 (column 4, line 17: "carbon black"; column 5, lines 30-40; column 5, line 21).
- 2.3.4 The additional feature of dependent Claim 15 - a two-coat clear varnish - appears to pertain to a step familiar to a person skilled in the art: see D3 (column 2, lines 23-36). This feature is only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to solve the problem of



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interest, without thereby being inventive.

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VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

1. Contrary to PCT Rule 5.1(a)(ii), the description does not cite D1-D3 or indicate the relevant prior art disclosed therein.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. Dependent Claims 2 and 14 do not meet the requirements of PCT Article 6 because, owing to the features "(skid)" and "(Dual Cure)", respectively, placed between parentheses, the subject matter of the claims is not clearly defined.